



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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July 8, 1991

Mr. Ken Kluksdahl
Mine Manager
Tenneco Minerals Company
P. O. Box 2650
St. George, Utah 84770

Dear ^{VCM} Mr. Kluksdahl:

Re: **Conditional Approval, Permit Revision, Heap Leach Expansion, Goldstrike Mine, M/053/005, Washington County, Utah**

The Division has completed its review of your response to our initial completeness review for the permit revision of the Goldstrike permit. The majority of our comments have been adequately addressed. However, the following minor technical concerns must be addressed before we can grant a final approval of this proposal:

REMAINING TECHNICAL COMMENTS:

R613-004-106 Operation Plan - AAG, DWH

Page 43 of the 4/23/91 response indicated Ditch 1 (one of two unlined earthen ditches) is not currently planned to be left in place upon reclamation. There is no mention of the long term, post mining status for the other earthen ditch, Ditch 2. The plan indicates that the operator will monitor and maintain this ditch as necessary during operations. The Reclamation Treatment Map (Drawing GS-011), indicates that Ditch 2 will not exist upon final reclamation. If this ditch is to remain after mining operations, then its long term integrity and erosional stability must be assured. Please clarify/confirm what the operator's long term intentions are for this ditch.

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Page 36 of the 4/23/91 response indicates that the foundation for the Leach Pad #2 Extension will be constructed by placing the material in 10-foot lifts rather than end-dumping. Any deviation from this latest proposal pursuant to review and comment by the Division of Water Quality must be incorporated into the final approved design plans for this facility. The permit application must be updated and revised accordingly.

The final design drawings and associated plans (once accepted and approved by DWQ) for operation and maintenance of the heap leach pad extension, must be provided to the Division for inclusion into the approved permit application for the Goldstrike Mine.

R613-004-106(5) Topsoil Salvage - HWS

The Division is still concerned with the topsoil mass balance question. Tenneco response indicates that there will be 193,000 cubic yards of topsoil made available for reclamation, plus another 10,000 cubic yards of overburden fines. The total will provide 203,000 cubic yards of topsoiling material.

Page 51A of the revised plan, breaks the various topsoil depths down for specific areas of the site, but does not provide acreage figures. The acreage for each separate area must be given to provide a basis for the calculations. Based upon a total disturbed area of 250 - 30 (area under variance) = 220 acres, and an average topsoil depth of 8.5 inches, 251,411 cubic yards of topsoil will be required for reclamation. This indicates a 48,411 cubic yard topsoil deficit.

Again, as was asked in the initial review, what will Tenneco do if there is a deficit? The operator must incorporate into the permit application a plan for dealing with a topsoil deficit. One option may be to salvage more overburden material that might function as a topsoil substitute.

R613-004-009 Impact Assessment - HWS, AAG

An omission from the operators initial revision application, is the question of projected impacts of the cyanide processing facilities to wildlife. The operator needs to discuss this under Chapter 3, Existing Operation, of the permit application. Methods to be employed to haze and prevent access of wildlife to the cyanide

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containing facilities should be discussed. For example the use of propane cannons around ponds and the use of ditch covers should be discussed in the plan. Also the Division has asked that Tenneco record all animal mortalities associated with the cyanide containing facilities. The procedure, which is presently employed to evaluate and report these mortalities must be included in the permit application.

The operator's latest response still contains no verbal/written description regarding the highwalls which will remain in the Padre and Basin Pits after operations cease. However, the drawings do give an indication of their approximate maximum heights of 350 feet and 290 feet, respectively, and they have been described as having an angle between 50 to 56 degrees. The Division will accept the drawings as sufficient to address the request for a written description. No further information will be required at this time.

R613-004-111(6) Reclamation Practices (Slopes) - HWS

On page 5 of the response letter, Tenneco indicates that it is not possible to commit to regrading neutralized leach material to 3:1 slopes until the Division of Water Quality (DWQ) has passed judgement on the appropriateness of pushing the material off the liner.

It is the Division's position and recommendation that Tenneco be permitted to push the leached and "neutralized" ore off of the liners to achieve a 3:1 slope configuration upon final reclamation of the leach pads. It is the Division's opinion that pushing the material off the liner will result in better reclamation, erosional stability and ultimate productivity of the area. This position is conditioned upon the operator's demonstration that the heaps have met/achieved the appropriate neutralization standards as established/required by the DWQ upon cessation of heap leaching operations.

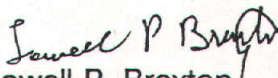
R613-004-112 Variance - AAG

The supplemental information provided regarding the safety and stability of the Basin Pit highwalls justifies the granting of a variance allowing these highwalls to remain.

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The Division's final approval of this project revision will be acknowledged upon the resolution of these remaining items. Please contact me, or D. Wayne Hedberg if you have questions or concerns regarding the content of this letter. Thank you for your continued cooperation and patience in completing this permitting action.

Sincerely,


Lowell P. Braxton
Associate Director, Mining

jb
cc: Don Ostler, DWQ
Debra Pietrzak, BLM
Paul Carter, BLM
Elliott Lips, JBR
Minerals Staff
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